IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Inventors: Parag M. Doshi et al.
Case: Doshi 1-1-3-10-1 (LCNT/124516)
Serial No.: 10/055,333
Filing Date: January 23, 2002   **Confirmation #:** 8021
Examiner: Christopher P. Grey   **Group Art Unit:** 2616
Title: Apparatus And Method For Enabling Optimized Gateway Selection For Inter-Working Between Circuit-Switched And Internet Telephony

**MAIL STOP APPEAL BRIEF-PATENTS
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450**

SIR:

APPEAL BRIEF

Appellants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2616 mailed March 26, 2008 finally rejecting claims 1-30.

In the event that an extension of time is required for this appeal brief to be considered timely, and a petition therefor does not otherwise accompany this appeal brief, any necessary extension of time is hereby petitioned for.

Appellants believe the only fee due is the $510 Appeal Brief fee which is being charged to counsel's credit card. In the event Appellants are incorrect, the Commissioner is authorized to charge any other fees to Deposit Account No. 20-0782/**LCNT/124516**.

Table of Contents

Real Party in Interest

The real party in interest is LUCENT TECHNOLOGIES INC.

Related Appeals and Interferences

Appellants assert that no appeals or interferences are known to Appellants, Appellants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-30 are pending in the application. Claims 1-30 were originally presented in the application. Claims 1-2, 5, 12-13, 16, and 21-22 have been amended. The final rejection of claims 1-30 is appealed.

Status of Amendments

All claim amendments have been entered.

Summary of Claimed Subject Matter

Embodiments of the present invention are generally directed to a method and apparatus for inter-working between a circuit-switched network and Internet telephony application. More specifically, one embodiment provides a method for selecting a gateway for interworking between two networks supporting different network protocols. The method comprising includes querying a unified location management device, where the unified location management device stores location information for users of the network protocols, including mobile users. The method further includes relaying mobile user location related information about a user of one of the networks from the unified location manager and selecting the gateway based on this location information.

If a call is made from an internet telephony device to a mobile device, then the unified location manager operates as an inbound proxy for a given IP domain. The unified location manager allows selecting of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device bypasses the mobile device's home MSC or gateway MSC. If the call is made from a PSTN device to an internet telephony user, the method employs cellular numbers to denote internet telephony telephones.

For the convenience of the Board of Patent Appeals and Interferences, Appellants' independent claims 1, 12 and 21 are presented below with citations to various figures and appropriate citations to at least one portion of the specification for elements of the appealed claims.

Claim 1 positively recites (with reference numerals, where applicable, and cites to at least one portion of the specification added):

> 1. (Previously Presented)   A method of selecting a gateway (16, 54, 211, 213) for interworking between a first (103) and second network (117) supporting different network protocols, said method comprising the steps of:

querying a unified location management device (50, 101) having location information (203) stored therein for users of said different network protocols, said users including mobile (14) users;

relaying mobile user location related information (203) from said unified location manager (50, 101) regarding a user of said one of said first (103) and second network (117); and

selecting said gateway (16, 54, 211, 213) based on said location information (203) provided;

wherein for calls from an internet telephony device to a mobile device (14), said unified location manager (50, 101) operates as an inbound proxy for a given IP domain allowing selection of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device (14) bypasses the mobile device's home MSC or gateway MSC; and for PSTN originated calls to an internet telephony user, cellular numbers are used to denote internet telephony telephones.

Support for the elements of claim 1 can be found at least from the following sections of Appellants' specification: page 2, lines 12 – 27; page 7, line 24 – page 8, line 16; page 8, line 29 – page 9 line 31; page 10, lines 6 – 28; page 11, line 28 – page 15, line 24; and Figs. 4 – 7.

Claim 12 positively recites (with reference numerals, where applicable, and cites to at least one portion of the specification added):

12. (Previously Presented)   A method used for selecting a gateway (16, 54, 211, 213) for a call from a first network (103) to a mobile user in a second network (117), said first (103) and second (117) network supporting different network protocols, said method comprising the steps of:

querying a unified location management device (50, 101) having location information (203) for multiple mobile network technologies stored therein; and

providing location related information (203) for said mobile user in said second network (117) for use by said first network (103) in selection of said gateway (16, 54, 211, 213),

wherein for calls from an internet telephony device to a mobile device (14), said unified location manager (50, 101) operates as an inbound proxy for a given IP domain allowing selection of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device (14) bypasses the mobile device's home MSC or gateway MSC; and for PSTN calls to an internet telephony user, cellular numbers are used to denote internet telephony telephones.

Support for the elements of claim 12 can be found at least from the following sections of Appellants' specification: page 2, lines 12 – 27; page 7, line 24 – page 8, line 16; page 8, line 29 – page 9 line 31; page 10, lines 6 – 28; page 11, line 28 – page 15, line 24; and Figs. 4 – 7.

Claim 21 positively recites (with reference numerals, where applicable, and cites to at least one portion of the specification added):

21. (Previously Presented)   An apparatus (50, 101) for enabling optimized gateway (211, 213, 215, 217, 219, 221) selection for interworking between a first (103) and second network (117), said apparatus comprising

a data server for storing location (203) and service profile data (205) for multiple differing network technologies including mobile network technology;

at least two network protocol gateways (211, 213, 215, 217, 219, 221) for translating incoming location information requests into a protocol independent format;

a processor for interfacing between said data server and said protocol gateways (211, 213, 215, 217, 219, 221), wherein mobile user location related information (211, 213, 215, 217, 219, 221) is able to be provided by said apparatus (50, 101) for use in selection of said gateway (211, 213, 215, 217, 219, 221),

wherein for calls from an internet telephony user/device to a mobile device (14), said apparatus (50, 101) operates as an inbound proxy for a given IP domain allowing selection of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device (14) bypasses the mobile device's home MSC or gateway MSC; and for PSTN originated calls to an internet telephony user, cellular numbers are used to denote internet telephony telephones.

Support for the elements of claim 21 can be found at least from the following sections of Appellants' specification: page 2, lines 12 – 21; page 2, line 28 – page 3, line 2; page 7, line 24 – page 8, line 16; page 8, line 29 – page 9 line 31; page 10, lines 6 – 28; page 11, line 28 – page 15, line 24; and Figs. 4 – 7.

Grounds of Rejection to be Reviewed on Appeal

Claims 1, 4, 5-12, 15-21, and 24-30 have been rejected under 35 USC §103(a) as being unpatentable over Havinis et al. (US 2003/0202521, hereinafter "Havinis") in view of Higuchi (US 2005/0286501, hereinafter "Higuchi").

Claims 2, 3, 13, 14, 22, and 23 have been rejected under 35 USC §103(a) as being unpatentable over Havinis in view of Higuchi in further view of the admitted prior art.

Arguments

Rejection Under 35 U.S.C. §103(a)

Claims 1, 4, 5-12, 15-21 and 24-30

Claims 1, 4, 5-12, 15-21, and 24-30 have been rejected under 35 USC §103(a) as being unpatentable over Havinis et al. (US 2003/0202521, hereinafter "Havinis") in view of Higuchi (US 2005/0286501, hereinafter "Higuchi"). The rejection is respectfully traversed.

Statement of Law

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a *prima facie* case of obviousness begins with first resolving the factual inquiries of Graham v. John Deere Co. 383 U.S. 1 (1966). The factual inquiries are as follows:

(A) determining the scope and content of the prior art;

(B) ascertaining the differences between the claimed invention and the prior art;

(C) resolving the level of ordinary skill in the art; and

(D) considering any objective indicia of nonobviousness.

Once the Graham factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in *KSR Int'l Co. v. Teleflex, Inc.*, 126 S. Ct. 2965 (2006); see also MPEP §2141.

References

1.   Havinis

Havinis is generally directed to a system and a method for converting between different networks for multimedia purposes. More specifically, an attribute is added to a call control protocol to indicate a multi-media coding of a calling subscriber. The

attribute is used to negotiate the multimedia-coding between nodes involved in the call. Based on the negotiations, a media gateway may be selected to support the necessary interworking (Havinis: see e.g., Abstract; paragraph [0009]).

2.   Higuchi

Higuchi is generally directed to a communication system for communications of media via IP network between terminals. More specifically, Higuchi is directed to a communication system for providing voice over IP communications between the terminals. The communication system may include an IP packetizing unit for IP packetizing and sending packets to an IP network and converting IP packets received from the IP network. The communication system may also include a media signal transmitting unit for connecting a first terminal to the IP packetizing unit and transmitting media signals. The first terminal includes a media/signal converter for generating media signal and a controller for controlling connection to a second terminal. Upon completion of connection control for a call between the two terminals, the controller sends and receives media signals to and from the second terminal through the media/signal converter, media signal transmitting unit, IP packetizing unit, and IP network (Higuchi: see Abstract; paragraph [0047]).

Arguments

Havinis and Higuchi, alone or in combination, do not teach or suggest "querying a unified location management device having **location information stored for users of said different network protocols**," as recited in Appellants' independent claim 1. The Examiner equates Home Location Register ("HLR") 280 of Havinis to the unified location management device of Appellants' claim 1. More specifically, the Examiner reasons that HLR is a location database storing references to B-numbers and C-numbers, where a B-number denotes a user within the PLMN 210 of Figure 1 and a C-number denotes a subscriber in a PSTn network 410 of Figure 3 (see Advisory Action, page 2). Appellants disagree with such an interpretation of Havinis.

First, Havinis does not expressly disclose that the HLR stores B-number. What Havinis states is that GMSC uses the B-number to query the HLR (Havinis: see

paragraph [0020], lines 4-5). This is not the same as the HLR storing the B-number. The Examiner appears to suggest that it is inherent from the described arrangement that the HLR stores the B-number, because the HLR has to respond to a query containing the B-number (see Advisory Action, page 2). However, the HLR, for example, may use only a portion of the B-number to understand the query, and thus, storing the B-number by the HLR is not necessary for the Havinis arrangement to operate.

Second, even if the HLR does store the B-number, the B-number cannot be equated to the Appellants' claimed location information. While the B-number may be used to identify a corresponding mobile user, such identification does not include a current location of the mobile user. Though the mobile user may change locations, the B-number stays the same. Accordingly, the B-number is not the location information.

Third, Havinis does not teach that the HLR stores location information for different users. Both numbers, the B-number and C-number, represent the same user. A calling subscriber uses the B-number to reach a called subscriber and gets transferred to the C-number if the B-number subscriber has established forwarding of the B-number calls to the C-number. Accordingly, for the calling subscriber, the B-number and the C-number represent the same user. In contrast, Appellants claim 1 expressly recites: "**users of said different network protocols**."

Fourth, Havinis does not teach or suggest "selecting said gateway **based on said location information** provided." The Examiner suggests that this element is taught in paragraphs [0020] – [0022], noting that the mobile gateway is selected. Appellants disagree.

According to the method described in the above named portion of Havinis, the mobile gateway is selected at step 295 (see paragraph [0022], lines 1-4). However, nowhere does Havinis expressly state that the gateway selected at step 295 is selected based on the location information (see paragraphs [0018] – [0022]).

Furthermore, selecting a gateway based on location information is not inherent from Havinis. In contrast, Havinis describes entirely different criterion for selecting a gateway, namely: a gateway capable of converting between particular networks. More specifically, Havinis states that "the MGC 300 [media gateway controller] **selects an appropriate** MG 350 **[mobile gateway] to perform the conversion** of the media

streams **between the packet-switched H.323 network** 110 **and the circuit-switched network** 210." Whether a particular gateway is capable of supporting conversion between different protocols does not depend on where such a gateway is located. Therefore, Havinis does not teach or suggest selecting a gateway based on the location information.

Fifth, Havinis does not teach or suggests at least "wherein for PSTN originated calls to an internet telephony user, **cellular numbers are used to denote internet telephony telephones**." The Examiner asserts that this limitation is taught by Figure 3 and paragraph [0024] of Havinis. More specifically, the Examiner suggests that, according to Figure 3, a call may originate from PSTN 410 to an internet telephony telephone and that a B-number is the cellular number used to denote such an internet telephony telephone (see final office action, page 3). Appellants disagree.

While it is feasible that a PSTN subscriber may make a call to an internet telephony user, nowhere in Figure 3 or in the paragraphs describing Figure 3 (i.e., paragraphs [0024] – [0026]) does Havinis even suggest that the internet telephony telephone or user would be identified by the B-number. In contrast, Havinis states that the called party is a mobile station (Havinis: see paragraph [0024], line 4). Furthermore, in the description of Figure 3, Havinis expressly relies on Figure 1, where the **B-number denotes the mobile user** (Havinis: see paragraph [0024], line 6; paragraphs [0019] – [0020]). Because a mobile user (device) is entirely different from an internet telephony user (telephone), Havinis does not teach or suggest the above limitation.

Finally, the Examiner asserts that a combination of Havinis and Higuchi discloses:

> "wherein for calls from an internet telephony device to a mobile device, said unified location manager operates as an inbound proxy for a given **IP domain** allowing selection of a location dependent routable temporary phone number such that **a call path from the internet telephony device to the mobile device bypasses the mobile device's home MSC or gateway MSC**" (emphasis added).

More specifically, the Examiner suggests that the HLR of Havinis acts as an inbound proxy for a given domain where the domain is PLMN network 210 and that

Figure 20 of Higuchi discloses that a call path can bypass a callee's home MSC or gateway MSC. Appellants disagree.

First, HLR may not be considered as the inbound proxy for the IP domain because, for example, **PLMN** 210 even when interpreted broadly **is not an IP domain**. As described in Havinis, PLMN 210 is a public land mobile network, which, as known to a person skilled in the art, is entirely different from any IP domain (Havinis: see paragraph [0017], line 6).

Second, Figure 20 of Higuchi shows a network configuration of a conventional all-IP architecture where a call originates **from a cellular phone** (see Higuchi: paragraph [0025], lines 1-3; paragraph [0027], lines 1-6). In contrast, according to Appellants' claim 1, a call is directed **to a mobile device**. Accordingly, whether a home MSC or gateway MSC is bypassed in Figure 20 is irrelevant because calls originating from a cellular phone and calls directed to the cellular phone may be routed differently.

Moreover, Figure 20 does not expressly include home MSC or gateway MSC. Accordingly, it is not inherent from Figure 20 that home MSC or gateway MSC is bypassed. For example, gateway MSC may be a part of a serving GPRS (general packet radio service) node ("SGSN 53"). As clearly shown, SGSN is a part of the communication path leading from the cellular phone 51.

With respect to Higuchi, Appellants note that Higuchi' application was filed in June 23, 2005 and is a divisional application of U.S. Application No. 09/809,919 filed on March 16, 2001, now abandoned. Appellants' application has been filed on January 23, 2002. Therefore, subject matter of any portion of Higuchi cited to support of a rejection of Appellants' claims must have support in Application No. 09/809,919. Appellants have addressed the Examiner's arguments relying on Figure 20 of Higuchi as Figure 20 has been included in Application No. 09/809,919. However, Appellants reserve the right to argue that Higuchi is an improperly cited reference, if the Examiner cites portions of Higuchi that lack support in Application No. 09/809,919.

In sum, at least for the reasons discussed above, Havinis and Higuchi, alone or in combination, do not teach or suggest all elements and limitations of Appellants' claim 1. Therefore, the Examiner has not established the prima facie case of obviousness with

respect to claim 1. Thus, Appellants submit that claim 1 is not obvious over Havinis in view of Higuchi, and is allowable under 35 U.S.C. §103.

Appellants' independent claims 12 and 21 recite similar elements and limitations as independent claim 1, and are therefore allowable for at least the same reasons provided above pertaining to claim 1. Claims 4, 5-11, 15-20, and 24-30 depend directly or indirectly from, and include each and every element and limitation of, independent claims 1, 12, and 21. Claims 4, 5-11, 15-20, and 24-30 are therefore allowable for the same reasons.

Claims 2, 3, 13, 14, 22, and 23

Claims 2, 3, 13, 14, 22, and 23 have been rejected under 35 USC §103(a) as being unpatentable over Havinis in view of Higuchi in further view of the admitted prior art. The rejection is respectfully traversed.

Claims 2, 3, 13, 14, 22, and 23 depend directly or indirectly from independent claims 1, 12, and 21. Further, for at least the reasons discussed above, Havinis and Higuchi, alone or in combination, do not teach or suggest Appellants' invention as recited in claims 1, 12, and 21. Accordingly, any attempted combination of the Havinis and Higuchi references with any other additional references, in a rejection against the dependent claims, would still result in a gap in regards to the rejection against the independent claims. As such, Appellants submit that dependent claims 2, 3, 13, 14, 22, and 23 are not obvious and are allowable under 35 U.S.C. §103.

Conclusion

Thus, Appellants submit that all of the claims presently in the application are allowable under the provisions of 35 U.S.C. §103.

For the reasons advanced above, Appellants respectfully urge that the rejection of claims 1-30 is improper. Reversal of the rejections of the Final Office Action is respectfully requested.

Respectfully submitted,

Dated: _8/26/08_   _C. J. Wall_

Eamon J. Wall
Registration No. 39,414
Patterson & Sheridan, L.L.P.
595 Shrewsbury Ave. Suite 100
Shrewsbury, NJ 07702
Telephone: (732) 530-9404
Facsimile: (732) 530-9808
Attorney for Appellant

CLAIMS APPENDIX

1. (Previously Presented)   A method of selecting a gateway for interworking between a first and second network supporting different network protocols, said method comprising the steps of:

querying a unified location management device having location information stored therein for users of said different network protocols, said users including mobile users;

relaying mobile user location related information from said unified location manager regarding a user of said one of said first and second network; and

selecting said gateway based on said location information provided;

wherein for calls from an internet telephony device to a mobile device, said unified location manager operates as an inbound proxy for a given IP domain allowing selection of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device bypasses the mobile device's home MSC or gateway MSC; and for PSTN originated calls to an internet telephony user, cellular numbers are used to denote internet telephony telephones.

2. (Previously Presented)   The method of claim 1, wherein said step of selecting is optimized by providing a selection that minimizes any one of triangle routing, a PSTN call leg or an Internet call leg.

3. (Original)   The method of claim 1, wherein selection of said gateway is optimized by selecting a gateway that minimizes a circuit switched portion of a call.

4. (Original)   The method of claim 1, wherein said location related information is used to assign a location dependent routable temporary telephone number for use in said gateway selection.

5. (Previously Presented)   The method of claim 1, wherein said internet telephony accounts are SIP accounts.

6. (Original)   The method of claim 1, wherein said mobile location information can correspond to an internet telephony user.

7. (Original)   The method of claim 6, wherein said location related information provides assignment of a GSM/UMTS temporary phone number.

8. (Original)   The method of claim 1, wherein said unified location manager is operable as a home location register for cellular networks and as a user registration and address resolution device for internet telephony networks.

9. (Original)   The method of claim 1, wherein said universal location manager uses a current Care-of-Address for providing said location related information for a mobile Internet telephony user.

10. (Original) The method of claim 1, wherein one of said first and second networks is circuit switched network and one of said first and second networks is an internet telephony network.

11. (Original) The method of claim 1, wherein the plurality of network protocols comprises at least two of ANSI-41, GSM MAP, SIP, H.323.

12. (Previously Presented)   A method used for selecting a gateway for a call from a first network to a mobile user in a second network, said first and second network supporting different network protocols, said method comprising the steps of:

querying a unified location management device having location information for multiple mobile network technologies stored therein; and

providing location related information for said mobile user in said second network for use by said first network in selection of said gateway

wherein for calls from an internet telephony device to a mobile device, said unified location manager operates as an inbound proxy for a given IP domain allowing

selection of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device bypasses the mobile device's home MSC or gateway MSC; and for PSTN calls to an internet telephony user, cellular numbers are used to denote internet telephony telephones.

13. (Previously Presented)   The method of claim 12, wherein said selecting is optimized by providing a selection that minimizes any one of triangle routing, a PSTN call leg or an Internet call leg.

14. (Original) The method of claim 12, wherein selection of said gateway is optimized by selecting a gateway that minimizes a circuit switched portion of a call.

15. (Original) The method of claim 12, wherein said location related information is used to assign a location dependent routable temporary telephone number for use in said gateway selection.

16. (Previously Presented)   The method of claim 12, wherein said internet telephony accounts are SIP accounts.

17. (Original) The method of claim 12, wherein said mobile location information can correspond to an internet telephony user.

18. (Original) The method of claim 12, wherein said unified location manager is operable as a home location register for cellular networks and as a user registration and address resolution device for internet telephony networks.

19. (Original) The method of claim 12, wherein said universal location manager uses a current Care-of-Address for providing said location related information for a mobile Internet telephony user.

20. (Original) The method of claim 12, wherein one of said first and second networks is circuit switched network and one of said first and second networks is an internet telephony network.

21. (Previously Presented) An apparatus for enabling optimized gateway selection for interworking between a first and second network, said apparatus comprising

a data server for storing location and service profile data for multiple differing network technologies including mobile network technology;

at least two network protocol gateways for translating incoming location information requests into a protocol independent format;

a processor for interfacing between said data server and said protocol gateways, wherein mobile user location related information is able to be provided by said apparatus for use in selection of said gateway

wherein for calls from an internet telephony user/device to a mobile device, said apparatus operates as an inbound proxy for a given IP domain allowing selection of a location dependent routable temporary phone number such that a call path from the internet telephony device to the mobile device bypasses the mobile device's home MSC or gateway MSC; and for PSTN originated calls to an internet telephony user, cellular numbers are used to denote internet telephony telephones.

22. (Previously Presented) The apparatus of claim 21, wherein said selection is optimized by providing a selection that minimizes any one of triangle routing, a PSTN call leg or an Internet call leg.

23. (Original) The apparatus of claim 21, wherein selection of said gateway is optimized by selecting a gateway that minimizes a circuit switched portion of a call.

24. (Original) The apparatus of claim 21, wherein said location related information is used to assign a location dependent routable temporary telephone number for use in said gateway selection.

25. (Original) The apparatus of claim 21, wherein said internet telephony accounts are SIP accounts.

26. (Original) The apparatus of claim 21, wherein said mobile location information can correspond to an internet telephony user.

27. (Original) The apparatus of claim 21 wherein said unified location manager is operable as a home location register for cellular networks and as a user registration and address resolution device for internet telephony networks.

28. (Original) The apparatus of claim 21, wherein said universal location manager uses a current Care-of-Address for providing said location related information for a mobile Internet telephony user.

29. (Original) The apparatus of claim 21, wherein one of said first and second networks is circuit switched network and one of said first and second networks is an internet telephony network.

30. (Original) The apparatus of claim 21, wherein the plurality of network protocols comprises at least two of ANSI-41, GSM MAP, SIP, H.323.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None